CATALOG DOCUMENTATION
EMAP SURFACE WATERS PROGRAM LEVEL DATABASE
1997-1998 Mid-Atlantic Integrated Assessment Program
Sediment Toxicity Data

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1. DATA SET IDENTIFICATION

1.1 Title of Catalog Document
1997-1998 Mid-Atlantic Integrated Assessment Program
Sediment Toxicity Data

1.2 Authors of the Catalog Entry
U.S. EPA NHEERL Western Ecology Division
Corvallis, OR

1.3 Catalog Revision Date
August 2000

1.4 Data Set Name
SEDTOX

1.5 Task Group
Surface Waters

1.6 Data Set Identification Code
142

1.7 Version
001

1.8 Requested Acknowledgement
These data were produced as part of the U.S. EPA's Environmental Monitoring and Assessment Program (EMAP). If you publish these data or use them for analyses in publication, EPA requires a standard statement for work it has supported:

"Although the data described in this article have been funded wholly or in part by the U.S. Environmental Protection Agency through its EMAP Surface Waters Program, it has not been subjected to Agency review, and therefore does not necessarily reflect the views of the Agency and no official endorsement of the conclusions should be inferred."

2. INVESTIGATOR INFORMATION

2.1 Principal Investigator

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2.2 Investigation Participants - Sample Collection

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State of West Virginia
State of Maryland
University of Maryland
U.S. Environmental Protection Agency
Office of Research and Development
Region III

3. DATA SET ABSTRACT

3.1 Abstract of the Data Set

The data set contains the results of sediment toxicity assessments.

3.2 Keywords for the Data Set

sediment, toxicity, Hyalella azteca, specific respiration, sediment metabolism

4. OBJECTIVES AND INTRODUCTION

4.1 Program Objective

In 1997 and 1998 the Ecological Monitoring and Assessment Program (EMAP) Surface Waters Program became a collaborator in the Mid-Atlantic Integrated Assessment (MAIA) project, which is attempting to produce an assessment of the condition of surface water and estuarine resources. The MAIA project represents a follow-up to the MAHA study, with an expanded geographic scope (southern New York to northern North Carolina, with more sites located in the Piedmont and Coastal Plain regions) and a different index period (July-September).

4.2 Data Set Objective

This data set is part of the MAIA project to characterize spatial and temporal variability of ecological indicators and demonstrate the ability of a suite of ecological indicators to estimate the condition of regional populations of aquatic resources.

4.3 Data Set Background Discussion

The primary function of the sedtox data set is to provide an assessment of the contaminant levels in the sampled streams. Tests used the freshwater amphipod Hyalella azteca to determine toxicity. These measurements will allow tracking of trends in stream water quality.

Sediment toxicity testing is used to evaluate the contaminant levels of freshwater harbors and rivers, as well as estuaries, marine bays, and marshlands. The procedure used the freshwater amphipod Hyalella azteca to determine the status of sediment contamination in the sampled stream. Sediment toxicity can also be used to indicate the effects on non-contaminant stressors such as physical habitat degradation. The survival in each sample is determined at the end of the test and compared to survival in a test using a "reference" sediment.

4.4 Summary of Data Set Parameters
Survival and growth of Hyalella azteca at 7 and 10 days.

5. DATA ACQUISITION AND PROCESSING METHODS

5.1 Data Acquisition

5.1.1 Sampling Objective
To obtain estimates of sediment toxicity at the sample site.

5.1.2 Sample Collection Methods Summary
Sediment was mixed well and at least 1 L placed into the labeled plastic bag. Bag sealed after squeezing out the air, then placed inside another bag and sealed. Sample stored cool until shipped. See Lazorchak et. al (1998).

5.1.3 Sampling Start Date
May 1997

5.1.4 Sampling End Date
September 1998

5.1.5 Platform
NA

5.1.6 Sampling Gear
Small scoop sampler, wide-mouthed jars, 1-gallon heavy-duty self-sealing bags, and a cooler with ice. Lazorchak et. al (1998).

5.1.7 Manufacturer of Instruments
NA

5.1.8 Key Variables
NA

5.1.9 Sampling Method Calibration
NA

5.1.10 Sample Collection Quality Control
See Lazorchak, et al. 1998.

5.1.11 Sample Collection Method Reference
Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00 U.S. Environmental Protection Agency, Las Vegas, Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

5.1.12 Sample Collection Method Deviations
NA

5.2 Data Preparation and Sample Design

5.2.1 Sample Processing Objective
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.2 Sample Processing Methods Summary
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.3 Sample Processing Method Calibration
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.4 Sample Processing Quality Control
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

5.2.5 Sample Processing Method Reference
See Lazorchak, et al. (1998) and Chaloud and Peck (1994).

6. DATA MANIPULATIONS

6.1 Name of New or Modified Values
None

6.2 Data Manipulation Description
See Chaloud and Peck (1994).

7. DATA DESCRIPTION

7.1 Description of Parameters

Parameter SAS Name	Data Type	Len	Format	Parameter Label
DATE_COL	Num	8	MMDDYY	Date collected
DATE_TST	Num	8	MMDDYY	Test date
HYALCV7	Num	8		7 day growth C.V. %
HYALCV10	Num	8		10 day growth C.V. %
HYALWT7	Num	8		7 day Hyalella mean wt/m
HYALWT10	Num	8		10 day Hyalella mean wt/m
LAT_DD	Num	8		X-Site Latitude (decimal degrees)
LON_DD	Num	8		X-Site Longitude (decimal degrees)
SAMPLED	Char	30		Site sampled code
SAMP_ID	Num	8		Barcode
STRM_ID	Char	10	$CHAR	Stream ID
SURVCV7	Num	8		7 day survival C. V. %
SURVCV10	Num	8		10 day survival C. V. %
SURVPC7	Num	8		7 day mean % survival
SURVPC10	Num	8		10 day mean % survival

7.1 Description of Parameters, continued

VISIT_NO	Num	8	Visit Number
YEAR	Num	8	Year of site visit

7.1.6 Precision to which values are reported

7.1.7 Minimum Value in Data Set

Name	Min
DATE_COL	05/20/1997
DATE_TST	13677
HYALCV10	2.7
HYALCV7	1.78
HYALWT10	0.071
HYALWT7	0.019
LAT_DD	35.182938
LON_DD	-83.555659
SAMP_ID	225052
SURVCV10	0
SURVCV7	0
SURVPC10	65
SURVPC7	0
VISIT_NO	0
YEAR	1997

7.1.7 Maximum Value in Data Set

Name	Max
DATE_COL	09/30/1998
DATE_TST	14168
HYALCV10	51.9
HYALCV7	228.06
HYALWT10	0.253
HYALWT7	9.6
LAT_DD	42.567163
LON_DD	-74.688136
SAMP_ID	250610
SURVCV10	33.85
SURVCV7	200
SURVPC10	100
SURVPC7	112.5
VISIT_NO	3
YEAR	1998

7.2.1 Column Names for Example Records

"DATE_COL","DATE_TST","HYALCV10","HYALCV7","HYALWT10","HYALWT7","LAT_DD",
"LON_DD","SAMPLED","SAMP_ID","STRM_ID","SURVCV10","SURVCV7","SURVPC10",
"SURVPC7","VISIT_NO","YEAR"

7.2.2 Example Data Records

```
.,06/12/97,.,32.3,.,0.059,.,.," ",.,"ContPS",.,5.4,.,75,.,.
.,08/01/97,.,48.3,.,0.077,.,.," ",.,"ContPS",.,9.9,.,87.5,.,.
.,08/12/97,.,9.5,.,0.06,.,.," ",.,"ContPS",.,11.8,.,85,.,.
.,08/15/97,.,10.4,.,0.059,.,.," ",.,"ContPS",.,18.2,.,81.25,.,.
.,08/26/97,.,14.3,.,0.061,.,.," ",.,"ContPS",.,17.1,.,77.5,.,.
```

8. GEOGRAPHIC AND SPATIAL INFORMATION

8.1 Minimum Longitude
-83 Degrees 33 Minutes 20 Seconds West (-83.555659 Decimal Degrees)

8.2 Maximum Longitude
-74 Degrees 41 Minutes 17 Seconds West (-74.688136 Decimal Degrees)

8.3 Minimum Latitude
35 Degrees 10 Minutes 58 Seconds North (35.182938 Decimal Degrees)

8.4 Maximum Latitude
42 Degrees 34 Minutes 1 Seconds North (42.567163 Decimal Degrees)

8.5 Name of Area or Region
Mid Atlantic: EPA Region III which includes Delaware, Maryland, New York, Virginia, and West Virginia

9. QUALITY CONTROL / QUALITY ASSURANCE

9.1 Data Quality Objectives
See Chaloud and Peck (1994).

9.2 Quality Assurance Procedures
See Chaloud and Peck (1994).

9.3 Unassessed Errors
NA

10. DATA ACCESS

10.1 Data Access Procedures

10.2 Data Access Restrictions

10.3 Data Access Contact Persons

10.4 Data Set Format

10.5 Information Concerning Anonymous FTP

10.6 Information Concerning WWW

10.7 EMAP CD-ROM Containing the Data

11. REFERENCES

Chaloud, D.J. and D.V. Peck. 1994. Environmental Monitoring and Assessment Program: Integrated Quality Assurance Project Plan for the Surface Waters Resource Group, 1994 Activities. EPA 600/X-91/080, Rev. 2.00 U.S. Environmental Protection Agency, Las Vegas, Nevada.

Lazorchak, J.M., Klemm, D.J., and Peck D.V. (editors). 1998. Environmental Monitoring and Assessment Program- Surface Waters: Field Operations and Methods for Measuring the Ecological Condition of Wadeable Streams. EPA/620/R-94/004F. U.S. Environmental Protection Agency, Washington, D.C.

12. TABLE OF ACRONYMS

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